

# North America Wire-to-Board EV Connectors Market Size and Forecast (2021 - 2031)

<https://marketpublishers.com/r/N9B671FA67D2EN.html>

Date: April 2026

Pages: 190

Price: US\$ 3,450.00 (Single User License)

ID: N9B671FA67D2EN

## Abstracts

The North America Wire-to-Board EV Connectors Market is projected to grow significantly, reaching an estimated US\$ 1,041.1 million by 2031, up from US\$ 212.2 million in 2024. This growth represents a remarkable compound annual growth rate (CAGR) of 25.7% from 2025 to 2031.

## Executive Summary and Market Analysis

The wire-to-board EV connectors market in North America is divided into three primary regions: the United States, Canada, and Mexico. The surge in this market is primarily driven by the increasing sales and production of electric vehicles (EVs), which in turn boosts the demand for sophisticated internal vehicle connectivity solutions, including high-performance wire-to-board connectors. According to Cox Automotive, approximately 300,000 new EVs were sold in the US during the first quarter of 2025, reflecting an 11.4% increase compared to the same period in 2024. Notably, General Motors reported sales of over 30,000 EVs, nearly doubling its volume from the previous year and outperforming competitors such as Ford and Hyundai. Additionally, Honda and Acura collectively sold over 14,000 EVs in the US during this timeframe. This substantial rise in EV adoption is driving the need for miniaturized, reliable, and high-density wire-to-board connectors that can accommodate the growing complexity of onboard electronics, including battery management systems (BMS), infotainment units, and advanced driver assistance systems (ADAS).

## Strategic Insights

## Market Segmentation Analysis

The North America Wire-to-Board EV Connectors Market can be segmented based on several criteria:

**By Type:** The market is divided into Sealed Connector Systems and Unsealed Connector Systems. The Sealed Connector System segment was the market leader in 2024.

**By Application:** The applications include ADAS and Safety Systems, Body Control and Interiors, Infotainment Systems, Engine Management and Powertrain, Battery Management Systems, Vehicle Lighting, and Others. The ADAS and Safety System segment was the dominant application in 2024.

**By Propulsion Type:** This segment includes Battery Electric Vehicles (BEVs), Plug-In Hybrid Vehicles (PHEVs), Fuel Cell Electric Vehicles (FCEVs), and Hybrid Electric Vehicles (HEVs). The Battery Electric Vehicle segment led the market in 2024.

**By Voltage:** The market is categorized into Low Voltage, Medium Voltage, and High Voltage, with the High Voltage segment being the largest in 2024.

## **Market Outlook**

The growth of the electric vehicle industry is a key driver for the demand for wire-to-board connectors, which are essential for ensuring efficient power and signal transmission between wiring harnesses and printed circuit boards (PCBs) in EV systems. These connectors serve as critical interfaces between various electrical subsystems, such as batteries, sensors, control modules, and power electronics, facilitating stable performance and reliable communication across the vehicle's electrical network.

According to the International Energy Agency (IEA), nearly 14 million new EVs were registered globally in 2023, bringing the total electric car fleet to 40 million, which is a 35% increase compared to 2022. This robust growth underscores the accelerating maturity of the EV market, with electric vehicles accounting for approximately 18% of all car sales in 2023, up from 14% in 2022 and just 2% in 2018. Battery electric vehicles represented around 70% of this total, highlighting the increasing power density and wiring complexity of EV architectures, which in turn drives the demand for durable and high-performance wire-to-board connectivity solutions.

As governments tighten emissions regulations and expand EV incentives—such as the US offering up to US\$7,500 in tax credits for new EV purchases—the transition toward fully electric platforms is gaining momentum. This shift is prompting original equipment manufacturers (OEMs) and Tier 1 suppliers to implement compact, vibration-resistant, and high-current wire-to-board connectors that meet stringent safety, reliability, and design requirements for next-generation electric vehicles.

## Country Insights

The North America Wire-to-Board EV Connectors Market is further segmented by country, with the United States holding the largest market share in 2024. The US is witnessing rapid growth in the EV sector, driven by increasing consumer demand, significant automaker investments, and supportive federal policies. In the fourth quarter of 2024, EV sales in the US reached 365,824 units, marking a 15.2% year-over-year increase, with a total of 1.3 million units sold throughout the year. This growth is propelling the demand for wire-to-board connectors, which are crucial for establishing reliable connections between wiring harnesses and electronic control units (ECUs) in systems such as battery management, ADAS, and infotainment.

As EV platforms evolve towards modular, software-defined architectures, manufacturers are increasingly requiring compact, high-current, and thermally stable wire-to-board connectors to ensure efficient power delivery and signal integrity. Federal initiatives, including the US\$7.5 billion Bipartisan Infrastructure Law and the NEVI program, are further accelerating EV adoption, prompting OEMs to scale production and integrate advanced electronics.

## Company Profiles

Key players in the North America Wire-to-Board EV Connectors Market include Yazaki Corp, Sumitomo Electric Industries Ltd, Molex LLC, TE Connectivity Ltd, PHOENIX CONTACT GmbH & Co. KG, Aptiv Plc, Hirose Electric Co Ltd, Amphenol Corporation, KYOCERA Corporation, and Guchen Electronics. These companies are employing various strategies such as expansion, product innovation, and mergers and acquisitions to deliver innovative products and enhance their market share.

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